



Roadmap for sustainable water resources in southwestern North America

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Abstract:

The management of water resources in arid and semiarid areas has long been a challenge, from ancient Mesopotamia to the modern southwestern United States. As our understanding of the hydrological and climatological cycles has improved, and our ability to manipulate the hydrologic cycle has increased, so too have the challenges associated with managing a limited natural resource for a growing population. Modern civilization has made remarkable progress in water management in the past few centuries. Burgeoning cities now survive in desert regions, relying on a mix of simple and complex technologies and management systems to bring adequate water and remove wastewater. These systems have permitted agricultural production and urban concentrations to expand in regions previously thought to have inadequate moisture. However, evidence is also mounting that our current management and use of water is unsustainable. Physical, economic, and ecological limits constrain the development of new supplies and additional water withdrawals, even in regions not previously thought vulnerable to water constraints. New kinds of limits are forcing water managers and policy makers to rethink previous assumptions about population, technology, regional planning, and forms of development. In addition, new threats, especially the challenges posed by climatic changes, are now apparent. Sustainably managing and using water in arid and semiarid regions such as the southwestern United States will require new thinking about water in an interdisciplinary and integrated way. The good news is that a wide range of options suggest a roadmap for sustainable water management and use in the coming decades.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3003074>

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change;
surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

Climate Change and Human Health Literature Portal

weather or climate related pathway by which climate change affects health

Food/Water Security

Geographic Feature:

resource focuses on specific type of geography

Desert

Geographic Location:

resource focuses on specific location

United States

Health Co-Benefit/Co-Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Policy/Opinion, Review

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Time Scale Unspecified